

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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COUNTRY Rumania

REPORT NO. SUBJECT Theoretical Training in the
Rumanian Air Force

DATE DISTR. 16 April 1953

NO. OF PAGES 15

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REQUIREMENT NO.

REFERENCES

THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
THE APPRAISAL OF CONTENT IS TENTATIVE.
(FOR KEY SEE REVERSE)

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The following report is a translation of text on the following topics:

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Theoretical courses at Stalin (Brasov) Airfield (4541N-2537E) for the 6 and 17 Bomber Regiments,

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Ground School courses at Air Cadet Schools #1 and #2

25X1

Theoretical training at Night Flying School of Center of Aviation Instruction at Tecuci Airfield (4551N-2724E),

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Theoretical training courses at TU-2 Familiarization School at Center of Aviation Instruction at Tecuci Airfield,

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Theoretical Courses at Brasov Airfield for 6th and 17th Bomber Regiments,

1. The prerequisite courses and hours to be covered during the period of a year by an Air Force unit were determined by the Bureau of Readiness for Battle or Training (Biroulul Pregatire de Lupta) of the Rumanian Air Force Command (Comandamentul Fortelor Aeriene Militare - CFAM).
2. The division subdivided the year's courses into monthly periods and relayed these programs to the regiments. The regiment, in turn, subdivided the monthly schedule into weekly schedules and assigned instructors to cover the various subjects. It is to be noted that, during optimum flying conditions in the summer, the 17th and 6th Bomber Regiments at Brasov Airfield flew only two days per week.
3. The winter schedule, from 1 December to 15 April, consisted of 60 days of theoretical and practical courses which totaled 242 hours. These courses are listed below and include, in their total number of hours, theoretical training which was given during summer days when there was no flying.

4. Courses Attended By All Flight Personnel

a. Staff Training (Pregatire de Comandament)..... 75 hours

- (1) Air Force Tactics (Tactica Aviatiei)..... 30 "
- (a) Organization and Role of the Air Force.... ? "
- (b) Properties; Mobility; Time Elements;
Fire Power..... ? "
- (c) Limitations: costly; rapid physical
depreciation; personnel trained with
difficulty; dependent on topography and
atmospheric conditions
- (d) The Various Types of Aircraft..... ?
fighters (tactical doctrine places
fighters 10 km. behind front
lines)..... ?
bombers (light, medium, heavy - placed
50 km. or more behind front
lines)
assault (placed 30 km. or more behind
front lines.)
reconnaissance
transport
air rescue
naval aviation
artillery spotters
- (e) Missions of the Air Force..... ?
normal (missions adapted to the parti-
cular type of aircraft)
special (such as assault missions per-
formed by light bombers)
tactical, operational and strategic

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- (f) Air-Ground Support (for training infantry; for offensive attack; for pursuit; for defense)..... ?
- (g) Execution of Missions..... ?
 the techniques and tactics
 attack of various objectives in
 relation to their defense
 air to ground AF Liaison Officer: the
 initial point, the target, the
 rendezvous point. /It was projected that
 one such officer, from an Air Division
 Staff, be assigned to every Ground Force
 Regiment.7
- (2) Artillery Tactics (Tactica Artileriei)..... 10 hours
- (a) Organization and Role of Artillery
- (b) Missions and Objectives
- (c) Classifications and Allocation
- (d) Support and Liaison with Other Ground Units
- (3) Tank Tactics (Tactica Blindatelor)..... 10 hours
- (a) Organization and Role of Tanks
- (b) Properties and Limitations
- (c) Types of Missions: (penetration or break-through of the battle line, pursuit of the enemy, defensive and delaying action)
- (4) Infantry Tactics (Tactica Infanteriei)..... 25 hours
- (a) Organization, TO & E, and Role of the Infantry
- (b) Properties and Limitations
- (c) Organization of a Line of Resistance at Divisional Strength (three regiments)
- b. Aerial Navigation (Navigatie Aeriana)..... 30 hours
- (1) The Globe (longitude, latitude, types of projections, maps, scales, curves of magnetic declination)..... ? "
- (2) Visual Navigation (determining ground speed, finding wind velocity and direction, drift meter)..... ? "
- (3) ETA Navigation..... ? "
- (4) Theory of Radio Navigation..... ? "

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(5) Other short courses, which included:

- (a) The elements of a cross country flight
- (b) Preparing a mission
- (c) The navigational sheet
- (d) The flight profile sheet
- (e) Determination of ground speed and exact location
- (f) Work with the K.D.1 computer (Kursdreieck-Hersteller: Modell 1942 Dennert & Page, Hamburg-Altona)
- (g) Work with the D.R.2 triangle-protractor (Dreieckrechner Hersteller: Dennert & Page; Hamburg-Altona 1941 model)
- (h) Work with DF signals, viz., QTE, QDM, QGH
- (i) Course corrections, viz., $(30^{\circ} - n^{\circ})$ 2.n.t.

c. Aerial Gunnery and Aerial Armament (Trageri aeriene si Armament de Bord)

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..... 10 hours

- (1) Necessary gunnery corrections
- (2) Sights - free visual and optical
- (3) Aircraft instruments, their functions, mounting, disassembly
- (4) Some elements of ballistics

d. Practical Maintenance Work on Aircraft..... 21 hours
(flight personnel, along with the mechanics participated in practical aircraft maintenance work such as cleaning sparkplugs, filters, pumps, fuses)

e. Flying Regulations..... 10 hours

(1) Types of Airfields..... ? hours

(a) Military:

Home base airfields (aerodroame de baza)
 Training airfields (aerodroame de scoala)
 Special airfields at factories (aerodroame speciale la fabrici)
 Temporary training airfields (aerodroame de lucru)
 Combat airfields (aerodroame de campanie)
 Auxiliary airfields (campuri de aterisare)
 Dispersal airfields (campuri de dispersare)

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- (2) The Organization of an Airfield..... ? hours
 Adaptation of the Airfield for night flying
 Duties of personnel stationed on the base.
 System of communications, viz, radio, tele-
 phone, flares
 Traffic control on the airfield
 The zone of the airfield (5-7 km. radius
 about the airfield)
 The workout zone (5 km. outside the zone of
 the airfield)
 The airfield's meteorological zone (50 km.
 radius about field)

f. Infantry Training (one hour per week) (all flight and
 ground personnel participated in this program)..... 21 hours

g. Target practice (all flight and ground personnel
 participated in this program)..... 20 hours

- (1) Five periods with the ZB, 7.92 cal. military
rifle
- (2) Two periods with light machine gun Rhein Metall
aerial mg 7.92 cal.
- (3) Two periods with military ZB 7.92 cal.
- (4) Three periods with "Orita" submachine gun (9-mm.
long parabellum cartridge).
- (5) Five periods with 9-mm. Walther pistol
- (6) Four periods with 12-gauge shotgun at skeet range
- (7) Four periods with 22 cal. target rifle

h. Parachute training (no actual jumping was performed)...10 hours

- (1) Tumbling exercises
- (2) Free jumps from four-meter-high platform
- (3) Control of the parachute on the ground

During the [redacted] numerous parachute jumps were performed at the civilian flying school at Ghimbav Airfield /4542N-2532E7. I always saw four to six parachutes in the air late on summer afternoons. On several occasions, I observed 14 parachutists who had jumped from a Junker-52. I believe that these civilian parachutists may be the core of the Rumanian parachute unit which I believe will be formed in the near future. I often heard it said [redacted] that a Maj. Vasile STANCU was to be commander of this parachute unit, which was to be at battalion strength. Maj. STANCU had been Commanding Officer of a Rumanian parachute company during World War II and was known to have made some sixty jumps on the Russian front. During [redacted] he was Commanding Officer of the 6th Airfield Service Battalion (Batalion Deservirea Aerodroame - BDA). [redacted] he was promoted to the post of Commanding Officer of the Rear Services of the 7th Bomber Division Headquarters in Brasov. He was a pro-Communist and opportunist.)

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5. Courses Attended Only by Pilot Personnel**a. The Technique of Flying..... 20 hours****(1) Flying Under Normal Conditions:**

- (a) The take-off
- (b) Leveling off
- (c) Rate of climb
- (d) Turns (correct, incorrect, skidding, slipping, climbing, descending)
- (e) Observation of the ground and aerial space
- (f) Traffic pattern and landing approach; speed
- (g) Spot landing
- (h) Use of flaps in landing
- (i) The actual landing and taxiing
- (j) Check list, viz., before take-off and after landing
- (k) Emergency procedures

(2) Formation Flying:

- (a) Take-off, rendezvous, peel-off and landing of formations
- (b) Formation under attack; by fighters, by AAA
- (c) Combat formations (box (cocori), in trail (sic), echelon to the right (esalonare dreapta), echelon to the left (esalonare stanga)
- (d) In-flight change of formations
- (e) Flying in poor weather conditions
- (f) Aspect of terrain during wintertime and various snow conditions

b. Familiarization with Aircraft..... 10 hours**(1) Characteristics**

- (a) Component parts
- (b) Stalling speeds
- (c) Weight and balance
- (d) Capacity of fuel, lube oil and hydraulic oil

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(2) The engines:

- (a) Gasoline and oil line systems
- (b) Fuel tanks, consumption, pumps, filters, constant flow carburetor, injection carburetor, air compressor
- (c) Starter, magnetos, generators
- (d) Power rating on ground and at altitude
- (e) Propellers (variable and constant)

c. Instrument Flying..... 15 hours

(1) Instruments necessary for instrument flying

- (a) Turn and bank indicator
- (b) Magnetic and electric compass
- (c) Altimeter
- (d) Rate of climb indicator
- (e) Gyro compass
- (f) Artificial horizon
- (g) Speed indicator

(2) The effect of primary controls and trim tabs

(3) The stall and spin recovery

(4) Link trainer (12 periods)

6. Courses Attended by Navigator-Observers, Bombardiers, Gunners

a. Problems of Bombing..... 25 hours

(1) Trajectory

(2) Bomb sights, viz., the Aeronautical Technical Service (Serviciul Tecnic Aeronautic - STA) Rumanian-manufactured free sight not optical bomb sight

(3) Types of bombs: incendiaries (mechanical, electrical fuses)

(4) Bombing patterns for various type targets

(5) Exercises with the bomb trainer (10 periods) - (the bomb trainer at Brasov Airfield had been made [redacted] and was an electrically manipulated conveyor belt 2½ x 11 meters, it did not indicate lateral deviations, however. This trainer was very much inferior to the one furnished by the Luftwaffe during World War II.)

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b. Aerial Photography..... 10 hours

(1) Aerial cameras.

- (a) The F.25 aerial camera, mechanical, adaptable for oblique, panoramic and vertical
- (b) The F.50 aerial camera, electrical, semi-automatic only for vertical photos. (Both of these cameras were of Rumanian manufacture and had been designed by a Rumanian national named (fnu) CONSTANTINESCU)

(2) The importance of aerial photography

(3) Interpretation, the stereoscopes.

(4) The epidiascope

(5) Calculation of the scale, overlap in photography (33%)

c. Armament Studies..... 10 hours

7. Courses Attended by Radio Operators (Radiotelegrafisti)

a. Practical training in Morse in the radio room..... 45 hours

8. Courses Attended by Mechanics

a. On-the-job training and several technical courses with the engineering officer of the regiment

9. During the days when there was no flying because of poor weather conditions, the unit improvised classroom studies on the Link trainer, the bomb trainer or in the particular subjects in which personnel had shown a previous deficiency. Twice a month, a staff officer of the Air Division delivered practical application problems to all personnel of the air regiment engaged in this training program. The problems were considered part of the Staff Training and each lasted two hours. Once a month, all flight personnel took part in a one-day infantry field exercise.

Ground School Courses at Air Cadet Schools No. 1 (Tecuci Airfield) and No. 2 (town of Focsani) /4542N-2712E/

10. The theoretical courses at the air cadet schools began on 1 November and continued till 15 April. The schedules could vary by 15 days either way. The Directorate of Schools (Directia Scolii) of the Rumanian AF Headquarters drafted the programs and course requirements in use at the training schools. These programs were forwarded to the school which broke them down into weekly and daily schedules.
11. Courses were given six days a week at the two air cadet schools, i.e., 44 hours of class study. The scholastic day was eight hours long the first five days of the week and four hours on Saturdays. There were also two hours of physical training per week. A class period was 50 minutes long with a 10-minute break between classes. The school was given a leeway of a few hours during which it could present the courses in which the students proved to be weaker.

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12. The infantry training at these schools stressed tactics rather than field exercises, since the cadets were, for the most part, recruited from their second year of infantry training.

13. The material listed below is a translation of the Air Cadet Winter program

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both first and second-year courses are included below:

During the period 15 November to 15 April, the following subject matter was covered by the Air Cadet Ground School Course, which included:

120 days of courses and military drill.....	920	hours
6 days left at the discretion of the school.....	46	hours
6 days allocated for final examinations.....	46	hours
Total	1012	hours

14. Courses Hours spent per course are estimates

- a. Political Education (Educatie politica)..... 120 hours
 - (1) Marxist-Leninist Philosophy
 - (2) Political Economy
 - (3) History of the Bolshevik Communist Party
- b. Tactics of the Air Force (Tactica Aviatiei)..... 62 hours
 - (1) The Various Types of Aircraft
 - (2) Properties and Limitations of the Air Force
 - (3) The Role of the Air Force in Modern Warfare
 - (4) Support of Ground Units by the Air Force
- c. Tactics of the Armed Forces (Tactica Armelor)..... 48 hours
 - (1) Artillery
 - (2) Infantry
 - (3) Moto-mechanized Infantry
 - (4) Parachutists
 - (5) Tanks
 - (6) Cavalry
 - (7) Organization and Role of the Rear Services
- d. Aerial Navigation (Navigatie aeriana)..... 64 hours
 - (1) Visual Navigation
 - (2) ETA Navigation
 - (3) Basic Theory of Radio Navigation

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- e. Topography (Topografie)..... 56 hours
 - (1) Cartography and the Various Types of Projections
 - (2) Map Reading
- f. Mathematics (Matematica)..... 22 hours
 - (1) Arithmetic - (addition, subtraction, multiplication and division)
 - (2) Fractions
 - (3) Common Denominators
- g. Geometry (Geometrie)..... 20 hours
 - (1) Plane Geometry (lines, angles, surfaces)
 - (2) Spherical Geometry (surfaces, volumes)
- h. Rumanian History (Istoria Romanilor)..... 20 hours
 - (1) Text edited by the Rumanian Workers' Party (Partidul Muncitoresc Roman - PMR)
- i. Geography (Geografie)..... 22 hours
 - (1) Geographic Aspects of Rumania
 - (2) Administrative Regions
 - (3) Communication ways; Roads; Waterways; Mountains
- j. Aircraft Engines (Motoare de aviatie)..... 28 hours
 - (1) Types of Motors; Cycles
 - (2) Component Parts
 - (3) Fuel Systems (pumps, carburetor, injector, filter, booster)
 - (4) Oil line systems (pumps, filters)
 - (5) Starters (electrical system, magnetos)
 - (6) Cooling systems (air, liquid)
 - (7) HP; weight per HP ratio
- k. Aerodynamics (Aerodinamica)..... 32 hours
 - (1) The Forces Which Act upon Aircraft in Flight
 - (2) Active Resistance; Passive Resistance
 - (3) Center of Gravity; Center of Lift
 - (4) Tabs; Flaps; Ailerons; Stabilizers
 - (5) Torsional Forces
 - (6) Practical Aerodynamics

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1. Aircraft (Avioane)..... 16 hours
 - (1) Types of Aircraft (Classified according to passenger space, construction and usage).
 - (2) Materials Used in the Construction of Aircraft
 - (3) Maneuverability of Aircraft; Acrobatic Potentials
 - (4) Stresses upon the Air Frame Due to Tensile, Torque and Shear Stresses
- m. Aircraft Instruments (Instrumente de Bord)..... 14 hours
 - (1) Motor controls
 - (2) Navigational controls
 - (3) Flight controls, viz., flaps, stabilizers, etc.
 - (4) Basic Principles of the Aircraft Instruments
- n. Aerial Gunnery and Bombing (Trageri si bombardament aerian)..... 22 hours
 - (1) Problems of Aerial Gunnery; Leads; Wind Deviation.
 - (2) Problems of Bombing
 - (3) Types of Bombing Raids
 - (4) Trajectory; Deviations
 - (5) Proper Coverage of the Target
 - (6) Calculation of Bomb Pattern and Types of Bombs.
 - (7) Sights (optical and free sights)
- o. Aerial Photography (Foto Aerian)..... 14 hours
 - (1) Types of Aerial Cameras
 - (2) Types of Photos (panoramic, oblique, vertical)
 - (3) The Calculation of the Scale
 - (4) Photo Interpretation
- p. Meteorology (Meteorologie)..... 16 hours
 - (1) Precipitations
 - (2) Types of Clouds
 - (3) Composition of the Atmosphere
 - (4) Winds; Weather Fronts
- q. Aircraft Armament and Ammunition (Armament si munitii de bord)..... 22 hours
 - (1) Cannon, Machine Guns and the Corresponding Ammunition
 - (2) Bomb Racks; Bombs (incendiary and explosive)

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- r. Flying Regulations (Regulamentul de sbor)..... 12 hours
 - (1) Types of Airfields
 - (2) Organization of an Airfield
 - (3) Duties of Airfield Personnel (such as the flight controller, the officer of the day, radio operator of the day, meteorologist of the day, the couriers, the doctor, the mechanic of the day, the fire fighting team)
- s. Flying Equipment (Echipament de sbor)..... 10 hours
 - (1) Clothing (leather flying suits, detachable fur lining)
 - (2) Parachutes (Draeger type, German, World War II)
 - (3) Oxygen Masks (World War II type)
- t. Chemical Warfare, Toxic Gases (Gaze toxice)..... 8 hours
 - (1) Classification and Types of Toxic Gases
 - (2) Anti-Gas Clothing (echipament antichimic)
- u. Hygiene (Educatie sanitara)..... 6 hours
 - (1) Military Hygiene (higiena), during peace and war
- v. Military Regulations (Regulamente militare)..... 80 hours
 - (1) Regulations of Interior Structure of a Unit (Regulamentul Serviciului Interior - RSI)
 - (2) Regulations of a Unit in the Field (Regulamentul Serviciului in Campanie - RSC)
 - (3) Regulations of a Military Post (Regulamentul Serviciului in garnizoana - RSG)
 - (4) Regulations of a Unit in Combat (Regulament de front)
 - (5) Disciplinary Regulations (Regulamentul Disciplinar)
 - (6) Regulations of Units from the Division up (generalities) (Regulamentul Marilor Unitati - RMU)
- w. Infantry Training (Instructie militara terestra).... 160 hours
 - (1) Individual Arms Training
 - (2) Hand-to-Hand Fighting
 - (3) The Soldier in Offensive and Defensive Warfare
 - (4) The Squad (grupa) in Offensive and Defensive Warfare
 - (5) The Platoon (plutonul) in Offensive and Defensive Warfare
 - (6) Organization of the Battlefield Units
 - (7) Night and Day Battle Tactics

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x. Physical Training (Educatie fizica)..... 80 hours

(1) Calisthenics (Swedish) (educatie fizica suedeza)

15. There were two inspections by CFAM officers, during the course of the year.

16. Final examinations were the only tests administered.

a. For Year I Cadets, these tests occurred in April of every year for ground school.

b. For Year II Cadets, they occurred in the fall and after the final flight tests.

c. The final in each case consisted of a written examination and one oral question on each subject covered.

d. A committee of officers from the CFAM Hq. administered the finals.

e. The main prerequisite, however, for passing the flight and ground school finals was the cadet's "social origin" and "proper political culture". Practically speaking, professional ability was of secondary importance.

The Summer Schedule at the Air Cadet Schools (Covering the period 15 April to 1 November)

17. The summer schedule at Air Cadet School No. 1 at Zilistea Airfield [4513N-2658E], Summer [] was as follows:

0400 Reveille (Desteptarea)
 0400-0430 Personal Hygiene, dress, make beds
 0430-0500 Breakfast (Dejunul)
 0500-1100 Flying (a snack was served between 0930 and 1030 hours)
 1100-1200 Critique of flying
 1200-1300 Pre-flight briefing for the next day
 1300-1330 Tidy-up for dinner
 1330-1430 Dinner
 1430-1500 Free
 1500-1700 Compulsory rest period
 1700-1900 Sports
 1900-2000 Supper
 2000-2100 Tidy-up of personal equipment and barracks
 2100 Lights out (Stingerea)

18. There was no flying on Mondays; the following schedule obtained between 0700-1500. A political lecture was given during the first two hours. The rest of the time was utilized for administrative matters, such as checking squadron and individual logs, checking and exercising with parachute on the ground, performing weekly aircraft check.

19. During days when there was no flying because of the weather, the following informal schedule was followed:

- a. Aerial navigation
- b. Theory of instrument flying
- c. Link Trainer
- d. Firing on range with 22 cal. rifle and shotgun
- e. Drill

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20. The air cadet graduated as a single-engine pilot or as a twin-engine pilot. He received no training on any operational aircraft. Training on operational aircraft was given in the unit to which cadet was assigned upon graduation.

Theoretical Course at the Night Flying School of the Center of Aviation Instruction

25X1 Source was an instructor at this school during July and the first week
at Tecuci Airfield.

21. The theoretical course lasted five days, during which the following courses were given:
- Description and Function of the Instrument Panel
 - Two verification Sessions on the Link Trainer
 - The Organization and Readiness of an Airfield for Night Flying
 - Description of Shooting Landings
 - The execution of Workout in the Zone of the Airfield
 - Landing Aids and Signals (acoustic and optical)
22. After the above-mentioned courses, the student instructors were checked out by day on the PO-2, shooting one landing and making three hooded instrument flights. After this, practical flight training was given.

Ground School Studies for Tupolev-2 Training

- 25X1 22. While at Tecuci Airfield for TU-2 flight training between the
dates of I went through a short
ground school course with Soviet instructors for this aircraft which
lasted seven or eight days. The schedule of instruction was
as follows:
- Description of the aircraft:
 - Construction; characteristics
 - Gasoline fuel system (tanks, gasoline pumps, gas lines, consumption)
 - Lubricating system (tanks, oil pumps, oil filters, oil lines)
 - Hydraulic system (tanks, hydraulic controls, valves)
 - Organization of the airfield for flight readiness
 - Shooting landings (theoretical)
 - Familiarization and workout in the zone of the airfield (theoretical)
 - Starting and stopping of engines
 - Taxing
 - Simulated take-offs

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24. Meanwhile, the navigator-bombardiers took the following training:
 - a. Bomb rack system (the 14 combinations of bomb loading and release)
 - b. The bomb sight (optical, type unknown)
 - c. Armament
 - d. Aerial cameras for the Tupolev-6
25. The radio-operators took the following training:
 - a. Study of the radio, voice transmission and CW
26. The gunners took the following course:
 - a. Familiarization and manipulation of the 20-mm. cannon and machine guns of unknown caliber
27. The mechanics were trained as follows:
 - a. Studies of fuselage and motors
28. All the material covered in these courses was entered in a notebook by the flight personnel and recopied in ink. The notebooks, with numbered pages, were stamped and handed in to the Center of Aviation Instruction at that time at Tecucl Airfield. They were forwarded to the individual's home unit but were not reissued to the personnel.

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